International Journal of Electronics and Communication Engineering
Vol:8, No:11, 2014

Significant Role Analysis of Transmission Control Protocols in 4G Cellular Systems

Authors : Ghassan A. Abed, Bayan M. Sabbar

Abstract : The society of 3rd Generation Partnership Project (3GPP) is completed developing Long Term Evolution Advanced (LTE-Advanced) systems as a standard 4G cellular system. This generation goals to produce conditions for a new radio-access technology geared to higher data rates, low latency, and better spectral efficiency. LTE-Advanced is an evolutionary step in the continuing development of LTE where the description in this article is based on LTE release 10. This paper provides a model of the traffic links of 4G system represented by LTE-Advanced system with the effect of the Transmission Control Protocols (TCP) and Stream Control Transmission Protocol (SCTP) in term of throughput and packet loss. Furthermore, the article presents the investigation and the analysis the behavior of SCTP and TCP variants over the 4G cellular systems. The traffic model and the scenario of the simulation developed using the network simulator NS-2 using different TCP source variants.

Keywords : LTE-Advanced, LTE, SCTP, TCP, 4G, NS-2.
Conference Title : ICEP 2014 : International Conference on Electronic Publications
Conference Location : journal city, WASET
Conference Dates : November 23-23, 2014